

TABLE IV-8

Chemical Composition of Decontaminated,
Crystallized Salt

<i>Component</i>	<i>Weight Fraction</i>
NaNO ₃	0.458
NaNO ₂	0.186
NaOH	0.073
NaAlO ₂	0.100
NaCO ₃	0.078
Na ₂ SO ₄	0.104

(Note that the nitrate fraction decreases and the nitrite fraction increases during the early years of storage.)

Research and development have not progressed to the extent that the concentration of mercury in the decontaminated salt can be determined precisely; however, the concentration is expected to be less than 4×10^{-4} grams of mercury per gram of salt. The total amount of Hg in the 16.3 million gallons (~120,000 tons) of salt would then be less than 60 tons.

2. Alternative Storage Modes

Store in Tanks at SRP

The decontaminated salt solution is transferred to tanks outside the canyon-type solidification facility and processed through evaporators. The concentrate is transferred to decontaminated double-wall carbon steel waste tanks encased in reinforced concrete (this is the current design, or Type III, tank). The steel tanks have an expected life of 50 to 100 years, and the 2.5-ft-thick concrete encasements have an expected life of several hundred years. The concentrate is cooled to form crystallized salt. If all the solution does not crystallize when cooled, the supernate is recycled for further concentration until it does crystallize.

The tanks are monitored at the same level as the current practice for SRP waste tanks. After one hundred years when the residual ⁹⁰Sr and ¹³⁷Cs in the salt have been reduced by a factor of 10 due to radioactive decay, the access ports through the tank covers will be plugged and sealed. Other protective provisions include a confinement barrier over the tanks, such as reinforced